

## REMARKS

In the Office Action dated May 31, 2002, claims 1-58 were rejected. In the present response, claims 1, 2, 33, 42-50, 57, and 58, have been amended. Claims 1-58 remain pending.

Applicants respectfully submit that no new matter has been added by way of the above amendments.

### *I. Judicially Created Double Patenting Rejection*

#### *(a) Claims 1-2*

Claims 1-2 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 11 of U.S. Patent No. 6,355,072 (the '072 patent).

The Examiner stated that claims 1 and 2 of the present invention disclose a process for cleaning substrates comprising substrates with an organic solvent, and removing the organic solvent from the substrates using a pressurized fluid solvent, wherein the organic solvent is of the structural formula of glycol ether. The Examiner further stated that Claim 11 of the '072 patent disclose a process for cleaning a substrate which includes using a pressurized fluid solvent as a drying aid and recites the use of an organic glycol ether, and although the conflicting claims are not identical, they are not patentably distinct from each other because they generally describe the same process steps and the same ingredients, used in the same way, and for the same purpose.

A terminal disclaimer is enclosed in response to this rejection. Withdrawal of this rejection is respectfully requested.

**(b) Claims 3-5, 7, 9, 11, 13-15, 17, 19, 21, 23, 25, 27, 31, 33, 34, 36, 38, 40, 42, 44, 46, 48, 50, 51-56, and 58**

Claims 3-5, 7, 9, 11, 13-15, 17, 19, 21, 23, 25, 27, 31, 33, 34, 36, 38, 40, 42, 44, 46, 48, 50, 51-56, and 58 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 13 of U.S. Patent No. 6,355,072 (the '072 patent). The Examiner stated that the claims disclose an organic solvent wherein the organic solvent is properly anticipated by claim 13 of the '072 patent, disclosing an organic solvent is selected from the group consisting of dipropylene glycol n-butyl ether, tripropylene glycol n-butyl ether, tripropylene glycol methyl ether and mixtures thereof. The Examiner further stated that although the conflicting claims are not identical, they are not patentably distinct from each other because both generally describe the same process steps and the same ingredients, used in the same way, and for the same purpose, and because both the '072 patent and the instant application discloses a means for obviating the need for drying an article that has been cleaned with an organic solvent by using liquid phase carbon dioxide to selectively remove the organic solvent.

A terminal disclaimer is enclosed in response to this rejection. Withdrawal of this rejection is respectfully requested.

## **II. Claim Rejection Under 35 U.S.C. § 102(e)**

Claims 1-58 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,280,481, by Storey-Laubach, *et al.* (the '481 patent). The Examiner stated that:

The '481 patent discloses a process for cleaning substrate comprising cleaning the substrate with an organic solvent, and removing the organic solvent from the substrate using a pressurized fluid solvent. The organic solvents were listed on column 3, line 29, through column 6, line 9.

Applicants respectfully traverse this rejection in light of the amended claims.

In order to anticipate a claim, the reference must contain each and every element of the claimed invention, arranged as in the claim. Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Company, 221 U.S.P.Q. 481 (Fed. Cir. 1984). Additionally, the reference must “sufficiently describe the claimed invention to have placed the public in possession of it.” Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopedics, Inc., 976 F. 2d 1559, 1572, 24 U.S.P.Q.2d 1321, 1332 (Fed. Cir. 1992).

As claims 1-58 now stand in front of the Patent Office, they claim, in one aspect, a process for cleaning substrates by cleaning the substrates with an organic solvent in the absence of liquid carbon dioxide, and removing the organic solvent from the substrates using a pressurized fluid solvent. The organic solvent of the present claimed invention is a glycol ether.

The ‘481 patent teaches a method of dry-cleaning articles in carbon dioxide. The liquid dry-cleaning composition is a mixture of carbon dioxide, a surfactant, and a sizing agent, which are concurrently applied. An organic co-solvent is preferably included. The ‘481 patent also teaches that “by proper use of the co-solvent, conventional surfactants may be employed in a liquid carbon dioxide dry cleaning system.” The purpose of the co-solvents in the ‘481 patent is to solubilize conventional surfactants so that they can be used in liquid carbon dioxide in which the cleaning takes place. (The ‘481 patent, column 2, lines 12-15). Furthermore, the ‘481 patent teaches that the dry cleaning composition is removed by simply draining or venting, not by extraction. (The ‘481 patent, column 6, lines 27-29).

In the present claimed invention, the substrates are cleaned with an organic solvent in the absence of liquid carbon dioxide. After the substrates have been cleaned, the organic solvent is drained and then extracted from the substrates by immersing the substrates in a pressurized fluid

solvent, for example, liquid carbon dioxide, to extract the residual organic solvents from the substrates. Thus, the liquid carbon dioxide is used to remove the organic solvent from the substrate.

As the '481 patent fails to disclose each and every element of the present amended claims as arranged in the claims, and fails to sufficiently describe the claimed invention to have placed the public in possession of it, Applicants submits that anticipation cannot be found. And as the courts have stated that in order for a reference to anticipate a claim, "The identical invention must be shown in as complete detail as contained in the...claim" (Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989, cited by MPEP, section 2131), it is respectfully requested that this rejection of claims 1-58 under 35 U.S.C. § 102(e) be withdrawn.

### ***III. Claim Rejections Under 35 U.S.C. § 102(b)***

#### ***(a) Claim 1***

Claim 1 was rejected under 35 U.S.C. § 102(b) as being anticipated by *SPIE Micromachining and Microfabrication*, Oct. 1996, by Dyck, *et al.* ("Dyck"). The Examiner stated that:

Dyck discloses a process for cleaning substrates comprising cleaning the substrate with an organic solvent, and removing the organic solvent from the substrates using a pressurized fluid solvent. Dyck discloses generally an organic solvent, to include ethers, see page 5 "Experimental" section.

Applicants respectfully traverse this rejection in light of the amended claims.

In order to anticipate a claim, the reference must contain each and every element of the claimed invention, arranged as in the claim. Lindemann Maschinenfabrik GMBH v. American

Hoist and Derrick Company, 221 U.S.P.Q. 481 (Fed. Cir. 1984). Additionally, the reference must “sufficiently describe the claimed invention to have placed the public in possession of it.” Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopedics, Inc., 976 F. 2d 1559, 1572, 24 U.S.P.Q.2d 1321, 1332 (Fed. Cir. 1992).

As claim 1 now stands in front of the Patent Office, it claims, in one aspect, a process for cleaning substrates by cleaning the substrates with an organic solvent in the absence of liquid carbon dioxide, and removing the organic solvent from the substrates using a pressurized fluid solvent. The organic solvent of the present claimed invention is a glycol ether.

Dyck teaches a method of cleaning cantilevers and engines after oxide wet etching by first rinsing in deionized water followed by rinsing in methanol and acetone. Dyck does not teach the glycol ethers of the present claimed invention.

Dyck also teaches the use of supercritical carbon dioxide to dissolve and remove solvents from a pressure vessel. (See, Dyck, page 3, first full paragraph). Because the parts to be cleaned in Dyck were extremely fragile and subject to damage upon direct removal of the solvent used in the second rinse, supercritical carbon dioxide was used to displace this solvent by metering supercritical carbon dioxide through the vessel. Afterwards, the supercritical carbon dioxide was removed from the vessel by slow purging. In the present claimed invention the organic solvent is removed from the substrates using a pressurized fluid solvent.

As Dyck fails to disclose each and every element of the present claimed invention, that is, a method of cleaning a substrate with a glycol ether organic solvent in the absence of liquid carbon dioxide and removing the organic solvent from the substrates using a pressurized fluid solvent, anticipation cannot be found. Furthermore, the courts have stated that “we do not think that the general disclosure of [a reference] can be considered anticipatory of a specific limitation

not disclosed merely because the general will include the specific." In re Jacobson 160 USPQ 795, 800 (CCPA 1969). Therefore, reconsideration and withdrawal of this 35 U.S.C. § 102(b) rejection of claim 1 is respectfully requested.

**(b) Claims 1, 2, 3, 11-18, 33, 42-49, 57, and 58**

Claims 1, 2, 3, 11-18, 33, 42-49, 57, and 58 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,966,981, by Schultz (the '981 patent). The Examiner stated that:

The '981 patent teaches the use of liquid carbon dioxide for the removal of organic solvents including *inter alia* diethyl ether, ether alcohols such as ethylene glycol monomethyl and monoethyl ether, halogenated hydrocarbons such as chloroform, ethylene dichloride, perchloroethylene and the like.

Applicants respectfully traverse this rejection in light of the amended claims.

In order to anticipate a claim, the reference must contain each and every element of the claimed invention, arranged as in the claim. Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Company, 221 U.S.P.Q. 481 (Fed. Cir. 1984). Additionally, the reference must "sufficiently describe the claimed invention to have placed the public in possession of it." Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopedics, Inc., 976 F. 2d 1559, 1572, 24 U.S.P.Q.2d 1321, 1332 (Fed. Cir. 1992).

As the claims 1, 2, 3, 11-18, 33, 42-49, 57, and 58 now stands in front of the Patent Office, they claim, in one aspect, a process for cleaning substrates by cleaning the substrates with an organic solvent in the absence of liquid carbon dioxide, and removing the organic solvent from the substrates using a pressurized fluid solvent. The organic solvent of the present claimed invention is a glycol ether.

The '981 patent teaches a process of removing residual organic solvents of 1 to 6 carbons with carbon dioxide from foodstuffs. The removal of organic solvents is a processing step in reducing the organic solvent concentration of foodstuffs that have been processed with the organic solvents. The organic solvent is not used to clean the foodstuffs, but is used as an extraction process to prepare the products for food and feed use, as "[m]any agricultural products contain oil in addition to protein and/or carbohydrate components, and it is desirable to separate the oil prior to processing the other components." (See the '981 patent, column 1, lines 12-19). The '981 patent does not teach a process for cleaning substrates by cleaning the substrates with an organic solvent in the absence of liquid carbon dioxide and removing the organic solvent from the substrates using a pressurized fluid solvent.

As the '981 patent fails to disclose each and every element of the present claimed invention as arranged in the claims, anticipation cannot be found. Furthermore, the courts have stated that "we do not think that the general disclosure of [a reference] can be considered anticipatory of a specific limitation not disclosed merely because the general will include the specific." In re Jacobson 160 USPQ 795, 800 (CCPA 1969). Therefore, reconsideration and withdrawal of this 35 U.S.C. § 102(b) rejection of claims 1, 2, 3, 11-18, 33, 42-49, 57, and 58 is respectfully requested.

#### ***IV. Rejections Under 35 U.S.C. § 103(a)***

Claims 2-58 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *SPIE Micromachining and Microfabrication*, Oct. 1996, by Dyck, *et al.* ("Dyck"), in view of U.S. Patent No. 6,090,771, by Burt *et al.* (the '771 patent). The Examiner stated that:

Dyck discloses a process for cleaning substrates comprising cleaning the substrate with an organic solvent, and removing the organic solvent from the substrates

using a pressurized fluid solvent. Dyck discloses generally an organic solvent including methanol and acetone, see page 5 “Experimental” section, and that while methanol is disclosed as a solvent, Dyck fails to explicitly disclose the organic solvents contemplated by claims 2-58. And the ‘771 patent (column 5, lines 23 *et seq.*) discloses the claimed general structure and its various variants. The artisan would have been motivated to select the instantly claimed organic solvents for at least the reasons explicitly disclosed in the ‘771 patent, namely because of their solvency characteristics (see, e.g., column 4, line 40), and reduced residue and desirable drying characteristics (see, e.g., column 5, lines 55 *et seq.*)

Applicants respectfully traverse this rejection in light of the amended claim.

It is well established that the burden of establishing a *prima facie* case of obviousness lies with the Examiner. In determining obviousness, one must focus on the invention as a whole. Symbol Technologies Inc. v. Opticon Inc., 19 USPQ 2d 1241, 1246 (Fed. Cir. 1991). The primary inquiry is: “Whether the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and would have had a reasonable likelihood of success.... Both the suggestion and the expectation of success must be found in the prior art, not the applicant’s disclosure.” In re Dow Chemical, 5 USPQ 2d 1531 (Fed. Cir. 1988). When all the prior art is considered together, a person having ordinary skill in the art must have a sufficient basis for the necessary predictability of success to sustain a rejection under 35 U.S.C § 103. See Ex parte Novitski 26 USPQ2d 1389 (Bd.Pat.App. & Int. 1993) Citing In re Clinton, 188 USPQ 365 (CCPA 1976).

In view of the amendments and remarks presented herein, Applicants respectfully submit that a *prima facie* case of obviousness has not been established. As taught by the present invention, in one aspect, Applicants’ claims a process for cleaning substrates by cleaning the substrates with an organic solvent in the absence of liquid carbon dioxide, and removing the



organic solvent from the substrates using a pressurized fluid solvent. The organic solvent of the present claimed invention is a glycol ether.

Dyck teaches a method of cleaning cantilevers and engines after oxide wet etching by first rinsing in deionized water followed by rinsing in methanol and acetone. Dyck does not teach or suggest the glycol ethers of the present claimed invention.

Dyck also teaches the use of supercritical carbon dioxide to dissolve and remove solvents from a pressure vessel. (See, Dyck, page 3, first full paragraph). Because the parts to be cleaned in Dyck were extremely fragile and subject to damage upon direct removal of the solvent used in the second rinse, supercritical carbon dioxide was used to displace this solvent by metering supercritical carbon dioxide through the vessel. Afterwards, the supercritical carbon dioxide was removed from the vessel by slow purging.

However, Dyck does not teach or suggest a method of cleaning a substrate with a glycol ether organic solvent in the absence of liquid carbon dioxide and removing the organic solvent from the substrates using a pressurized fluid solvent.

The '771 patent teaches an aqueous based cleaning/disinfecting composition that may include an organic solvent having a general structure of a glycol ether. (The '771 patent, column 5, lines 23-30). The composition is applied to a hard surface and then forms into a film upon, for example, wiping. The composition then is allowed to dry by evaporation. (The '771 patent, column 8, lines 16-62).

However, the '771 patent also does not teach or suggest a method of cleaning a substrate with a glycol ether organic solvent in the absence of liquid carbon dioxide and removing the organic solvent from the substrates using a pressurized fluid solvent. Furthermore, in In re

Lambooy (133 USPQ 270, 275 (CCPA 1962)), the court held that compounds embraced within the generic disclosure of prior art were NOT rendered obvious. Specifically, the CCPA stated:

It is true that appellant's compound is encompassed by the broad classes of compounds disclosed by these reference patents BUT SO ARE MANY MANY OTHER COMPOUNDS. We do not think that progress in the useful arts would be promoted by permitting broad theoretical disclosures as these to preclude appellant from obtaining a patent for his invention." (emphasis added).

In the present claimed invention, Applicants' contend that the disclosure of the generic glycol ether formula in column 5 of the '771 patent does not render the present claimed invention obvious.

Additionally, since the cited references do not teach all the elements of the present claimed invention, that is, they do not teach or suggest a process for cleaning substrates by cleaning the substrates with a glycol ether solvent in the absence of liquid carbon dioxide, and removing the organic solvent from the substrates using a pressurized fluid solvent, these references cannot properly be combined as the claimed invention can be distinguished over these cited references.

Furthermore, there is no motivation or suggestion to combine the cited references. The Office Action states, however, that:

The artisan would have been motivated to select the instantly claimed organic solvents for at least the reasons explicitly disclosed in Burt *et al.*, namely because of their solvency characteristics (see, for example, column 4, line 40) and reduces residue and desirable drying characteristics (see, for example, column 5, lines 55 *et seq.*).

But the Office Action does not cite any reference showing or suggesting the interchangeability of such compounds or methods.

In making this allegation of interchangeability, the Office Action is attempting to shift the burden of proof of unobviousness to the Applicants. In the case of In re Grabiak (226 USPQ 870, 872 (CAFC 1985), the Court of Appeals for the Federal Circuit held that the USPTO's rejection of claims toward a herbicide antidote invention was improper because the USPTO cited no pertinent reference showing or suggesting to one of ordinary skill in the art the interchangeability of a thioester for an ester group in the herbicide antidote invention.

In the 35 U.S.C. § 103(a) rejection of the present claims, the Office Action has cited no pertinent reference showing or suggesting to one of ordinary skill in the art the interchangeability of substituents of the present claimed invention. It is also well established that the mere fact that it is possible to find isolated disclosures which might be combined in such a way to produce a new method does not necessarily render such invention obvious unless the art also contains something to suggest the desirability of the proposed combination. The hindsight afforded by the invention cannot be used to negate its insight.

The 35 U.S.C. § 103(a) rejection of claims 2-58 is therefore improper. Reconsideration and withdrawal of this 35 U.S.C. § 103(a) rejection is requested.

### **CONCLUSION**

With entry of the above Amendment and in view of the foregoing remarks, it is respectfully submitted that claims 1-58 are in condition for allowance.

None of Applicants' amendments or cancellations are to be construed as dedicating any such subject matter to the public, and Applicants reserve all rights to pursue any such subject matter in this or a related patent application.

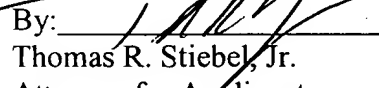
Submitted below is separate page titled "Version with Marking to Show Changes Made to the Claims," showing a marked-up copy of prior pending claims.

It is respectfully submitted in view of the foregoing Amendments and Remarks that all of the objections and rejections in the Office Action dated May 31, 2002 have been overcome and should be withdrawn. Applicants respectfully request early and favorable notification to that effect.

If, in the opinion of the Examiner, a phone call may help to expedite prosecution of this application, the Examiner is invited to call Applicant's undersigned attorney at (312) 701-8775.

Respectfully submitted,

Dated: August 30, 2002

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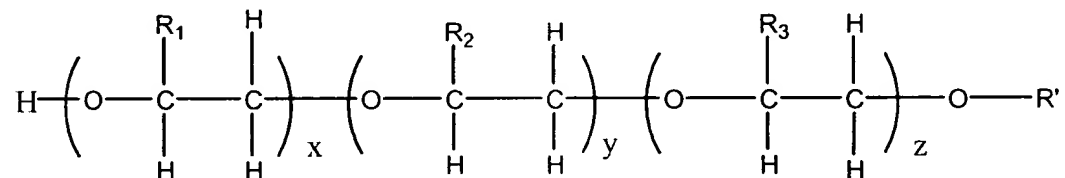
### Version with Marking to Show Changes Made to the Claims

1. (Amended) A process for cleaning substrates comprising:

cleaning the substrates with an organic solvent in absence of liquid carbon dioxide; and

removing the organic solvent from the substrates using a pressurized fluid solvent;

wherein the organic solvent is of the structural formula:



wherein x, y, and z each is zero or one;

at least one of x, y, and z is one;

R<sub>j</sub> is C<sub>j</sub>H<sub>2j+1</sub> wherein j is an integer between one and (13-3(x+y+z)), inclusive; and

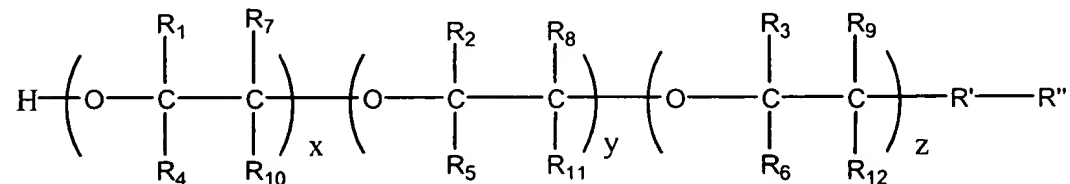
R<sub>1-3</sub> are independently H or CH<sub>3</sub>

2. (Amended) A process for cleaning substrates comprising:

cleaning the substrates with an organic solvent in absence of liquid carbon dioxide; and

removing the organic solvent from the substrates using a pressurized fluid solvent;

wherein the organic solvent is of the structural formula:



wherein x, y, and z each is zero or one;

at least one of x, y, and z is one;

R'' is benzyl, phenyl, partially or fully fluorinated benzyl or phenyl,  $C_jH_{2j+1}$ , or  $C_jH_aF_b$  wherein j is an integer between one and  $(13-3(x+y+z))$ , inclusive, a and b each is independently an integer between zero and  $2j+1$ , inclusive, and  $a+b=2j+1$ ;

$R_{1-12}$  are independently  $C_mH_nF_p$  or  $C_dH_eF_g$  where m is an integer between zero and two, inclusive, n and p are integers between zero and five, inclusive and  $n+p=2m+1$ , d is an integer between zero and two, inclusive, e and g are integers between zero and five, inclusive, and  $e+g=2d+1$ ; and

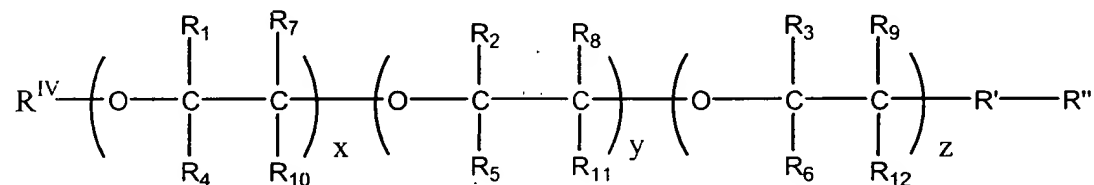
R' is O, S, carbonyl or ester.

33. (Amended) A process for cleaning substrates comprising:

cleaning the substrates with an organic solvent in absence of liquid carbon dioxide; and

removing the organic solvent from the substrates using a pressurized fluid solvent;

wherein the organic solvent is of the structural formula:



wherein x, y, and z each is zero or one;

at least one of x, y, and z is one;

R'' is  $C_jH_{2j+1}$  or  $C_jH_uF_v$  and  $R^{IV}$  is  $C_kH_{2k+1}$  or  $C_kH_rF_s$  wherein j and k are each an integer between one and  $(13-3(x+y+z))$ , inclusive, and  $j+k$  is an integer between two and  $(13-3(x+y+z))$ , inclusive, u and v are each an integer between zero and  $2j+1$ , inclusive, and  $u+v=2j+1$ , and r and s are each an integer between zero and  $2k+1$ , inclusive, and  $r+s=2k+1$ , and if k equals zero, then s equals zero;

$R_{1-3}$  and  $R_{10-12}$  are independently  $C_mH_nF_p$ , where  $m$  is an integer between zero and two, inclusive,  $n$  and  $p$  are integers between zero and five, inclusive and  $n+p=2m+1$ ;

$R_{4-9}$  are independently H, F or  $CH_3$ ; and

$R'$  is O, S, carbonyl or ester, and if  $R'$  is O or S and  $j$  equals zero then  $v$  equals zero.

42. (Amended) The process of claim 33 wherein:

$R_{1-3}$  are independently H, F,  $CH_3$ ,  $CH_2F$ ,  $CHF_2$ , or  $CF_3$ ;

$R_{4-12}$  are independently H or F; [and]

$R'$  is  $O_2$ ;

$R''$  is  $C_jH_uF_v$ ; and

$R_i^{IV}$  is  $C_kH_rF_s$ .

43. (Amended) The process of claim 33 wherein:

$R_{1-3}$  are independently H, F,  $CH_3$ ,  $CH_2F$ ,  $CHF_2$ , or  $CF_3$ ;

$R_{4-12}$  are independently H or F; [and]

$R'$  is S, carbonyl or ester;

$R''$  is  $C_jH_uF_v$ ; and

$R_i^{IV}$  is  $C_kH_rF_s$ .

44. (Amended) The process of claim 33 wherein:

at least one of  $R_{1-3}$  is  $C_2H_nF_p$ ;

$R_{4-12}$  are each independently H or F; [and]

$R'$  is  $O_2$ ;

$R''$  is  $C_jH_uF_v$ ; and

$R^{IV}$  is  $C_kH_rF_s$ .

45. (Amended) The process of claim 33 wherein:

at least one of  $R_{1-3}$  is  $C_2H_nF_p$ ;

$R_{4-12}$  are each independently H or F; [and]

$R'$  is S, carbonyl or ester;

$R''$  is  $C_jH_uF_v$ ; and

$R^{IV}$  is  $C_kH_rF_s$ .

46. (Amended) The process of claim 33 wherein:

$R_{1-9}$  are independently H or F;

$R_{10-12}$  are independently H, F,  $CH_3$ ,  $CH_2F$ ,  $CHF_2$  or  $CF_3$ ;

at least one of  $R_{10-12}$  is  $CH_3$ ,  $CH_2F$ ,  $CHF_2$  or  $CF_3$ ; [and]

$R'$  is  $O_2$ ;

$R''$  is  $C_jH_uF_v$ ; and

$R^{IV}$  is  $C_kH_rF_s$ .



47. (Amended) The process of claim 33 wherein:

$R_{1-9}$  are independently H or F;

$R_{10-12}$  are independently H, F,  $CH_3$ ,  $CH_2F$ ,  $CHF_2$  or  $CF_3$ ;

at least one of  $R_{10-12}$  is  $CH_3$ ,  $CH_2F$ ,  $CHF_2$  or  $CF_3$ ; [and]

$R'$  is S, carbonyl or ester;

$R''$  is  $C_jH_uF_v$ ; and

$R^{IV}$  is  $C_kH_rF_s$ .

48. (Amended) The process of claim 33 wherein:

$R_{1-9}$  are independently H, F,  $CH_3$ ,  $CH_2F$ ,  $CHF_2$  or  $CF_3$ ;

at least one of  $R_{10-12}$  is  $C_2H_nF_p$ ; [and]

$R'$  is O;

$R''$  is  $C_jH_uF_v$ ; and

$R^{IV}$  is  $C_kH_rF_s$ .

49. (Amended) The process of claim 33 wherein:

$R_{1-9}$  are independently H, F,  $CH_3$ ,  $CH_2F$ ,  $CHF_2$  or  $CF_3$ ;

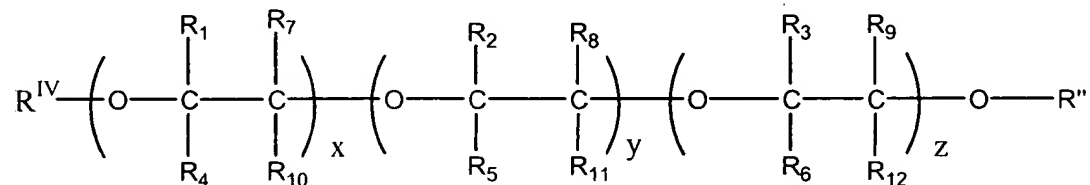
at least one of  $R_{10-12}$  is  $C_2H_nF_p$ ; [and]

$R'$  is S, carbonyl or ester;

$R''$  is  $C_jH_uF_v$ ; and

$R^{IV}$  is  $C_kH_rF_s$ .

50. (Amended) A process for cleaning substrates comprising:  
 cleaning the substrates with an organic solvent in absence of liquid carbon dioxide; and  
 removing the organic solvent from the substrates using a pressurized fluid solvent;  
 wherein the organic solvent is of the structural formula:



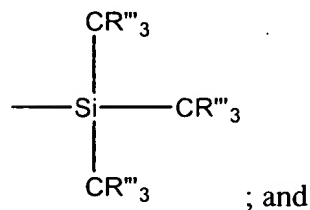
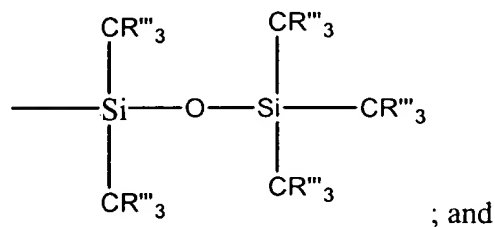
wherein x, y, and z are each zero or one;

at least one of x, y, and z is one;

R'' is selected from the group consisting of [including]:

H;

[F;]

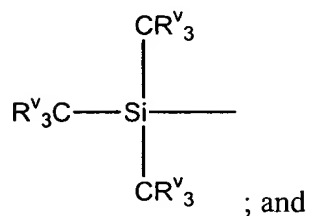
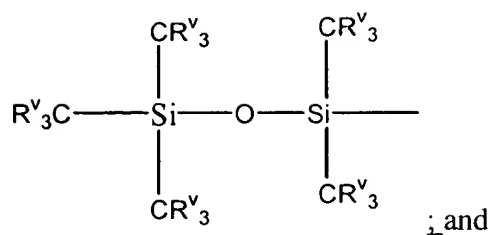


wherein R''' is H, F or combinations of H and F;

R<sup>IV</sup> is selected from the group consisting of [including]:

H;

[F;]



wherein  $\text{R}^{\text{V}}$  is H, F or combinations of H and F; and

when  $\text{R}''$  is H or F,  $\text{R}^{\text{IV}}$  is not H or F;

$\text{R}_{1-3}$  are independently H, F,  $\text{CH}_3$ ,  $\text{CH}_2\text{F}$ ,  $\text{CHF}_2$  or  $\text{CF}_3$ ; and

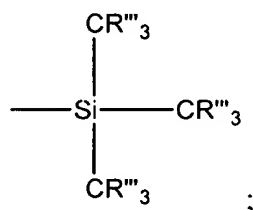
$\text{R}_{4-12}$  are independently H or F.

53. (Amended) The process of claim 50 wherein:

$\text{R}''$  is:

H;

[F;] or

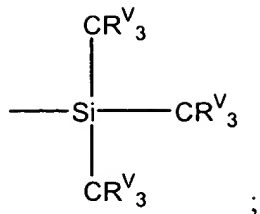


wherein  $\text{R}^{\text{III}}$  is H, F or combinations of H and F; and

$\text{R}^{\text{IV}}$  is:

H;

[F;] or



wherein  $\text{R}^{\text{V}}$  is H, F or combinations of H and F; and

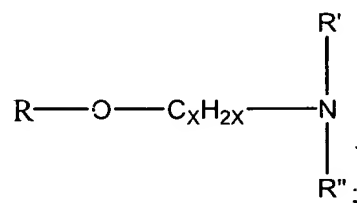
when  $\text{R}^{\text{V}}$  is H or F,  $\text{R}^{\text{IV}}$  is not H [or F].

57. (Amended) A process for cleaning substrates comprising:

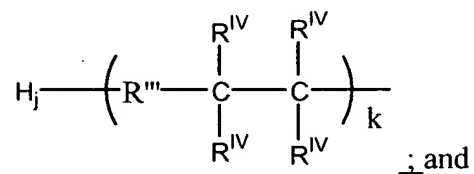
cleaning the substrates with an organic solvent in absence of liquid carbon dioxide; and

removing the organic solvent from the substrates using a pressurized fluid solvent;

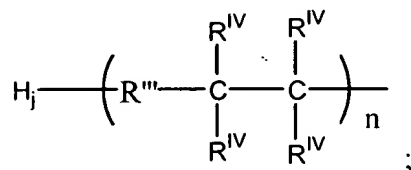
wherein the organic solvent is of the structural formula:



wherein  $\text{R}'$  is



$\text{R}^{\text{IV}}$  is independently



wherein  $\text{R}^{\text{III}}$  is O and j is 1 or  $\text{R}^{\text{III}}$  is N and j is 2;

n is an integer between zero and two;

$R^{IV}$  are each independently H,  $CH_3$  or  $CH_2CH_3$  and k is an integer between zero and two inclusive; and

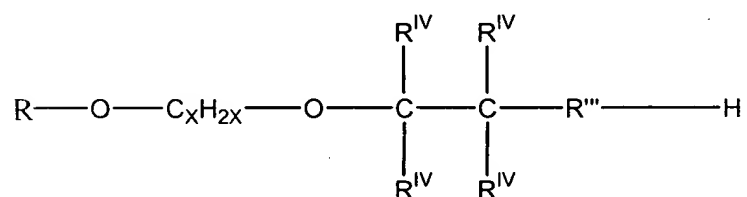
wherein R is  $C_yH_{2y+1}$  and y is an integer between one and  $(12 - (3k + 3n + x))$  inclusive, and x is an integer between one and  $(12 - (3k + y))$ , inclusive.

58. (Amended) A process for cleaning substrates comprising:

cleaning the substrates with an organic solvent in absence of liquid carbon dioxide; and

removing the organic solvent from the substrates using a pressurized fluid solvent;

wherein the organic solvent is of the structural formula:



wherein  $R'''$  is O [and j is 1] or  $[R''' \text{ is } \underline{NH} \text{ [N and j is 2]}]$ ;

$R^{IV}$  are each independently H,  $CH_3$  or  $CH_2CH_3$  and k is an integer between zero and two inclusive; and

wherein R is  $C_yH_{2y+1}$  and y is an integer between one and  $(12 - (3k + x))$  inclusive, and x is an integer between one and  $(12 - (3k + y))$ , inclusive.